In the claims:

1. (cancelled):   A method of speech recognition comprising: decoding multiple HMM sets using one set of sentence network and recognizing speech using said decoded multiple HMM sets.

2. (cancelled): A speech recognizer comprising: means for decoding HMM sets using one set of sentence network and a recognizer recognizing speech using said decoded multiple HMM sets.

3. (currently amended):   <u>A speech recognizer for decoding multiple HMM sets using a generic base sentence network comprising: means for decoding HMM sets using the generic base sentence network and a recognizer recognizing speech using said decoded multiple HMM sets</u> [The method of claim1] wherein the means for decoding includes means for building recognition paths defined on expanded symbols and accessing said network using base symbols through a conversion function <u>that gives the base symbol of any expanded symbols, and vice versa.</u>

4. (cancelled): The method of claim 3 wherein said decoding includes within model construction and between model construction. ~~The method of claim 4 wherein said decoding includes update observation probability.~~

5. (currently amended):   A speech recognition search method <u>for decoding multiple HMM sets using a generic base sentence network</u> comprising: providing a ~~set of~~ generic grammars, providing <u>expanded</u> symbols representing a network <u>of</u> expanded <u>HMM</u> sets and building recognition paths defined by the <u>expanded</u> symbols and accessing the <u>generic base sentence</u> network using ~~using~~ base symbols through <u>a</u> proper conversion function that gives the ~~true~~ <u>base</u> symbol of any expanded symbol<u>s, and vice versa.</u>

6. (currently amended):   A method of speech recognition <u>for decoding multiple HMM sets using a generic base sentence network</u> comprising the steps of: providing a generic network containing base symbols; a ~~single~~ <u>plurality of</u> set<u>s</u> of HMMs <u>where each set of HMMs corresponds to a single environmental factor such as</u> for male and female; <u>each said set of HMMs</u> ~~containing~~ <u>enumerated in terms of expanded symbols which map to the generic network base symbols;</u>

~~building recognition paths defined on virtual symbols corresponding to base symbols;~~ accessing said generic network using said ~~b~~base symbols through a̲ conversion function that gives base symbols for expanded ~~virtual~~ symbols to therefore decode multiple HMM sets using a generic base ~~single~~ sentence grammar and using said HMM sets to recognize incoming speech.

7. (original)   The method of Claim 5 wherein said building step includes for each frame path propagation expansion based on the grammar network and update-observation-probability.

8. (currently amended):   The method of Claim 7 wherein said path propagation includes getting offset̲s̲ ̲t̲h̲a̲t̲ ̲i̲n̲d̲e̲x̲ ̲e̲a̲c̲h̲ HMM~~s~~ set,̲ ̲r̲e̲t̲r̲i̲e̲v̲i̲n̲g̲ i̲n̲d̲i̲v̲i̲d̲u̲a̲l̲ ̲e̲x̲p̲a̲n̲d̲e̲d̲ ̲s̲y̲m̲b̲o̲l̲s̲ ̲f̲o̲r̲ ̲e̲a̲c̲h̲ ̲HMM̲ ̲s̲e̲t̲ ̲t̲h̲a̲t̲ ̲c̲o̲r̲r̲e̲s̲p̲o̲n̲d̲ ̲t̲o̲ ̲b̲a̲s̲e̲ ̲s̲y̲m̲b̲o̲l̲s̲ w̲i̲t̲h̲i̲n̲ ̲t̲h̲e̲ ̲g̲e̲n̲e̲r̲i̲c̲ ̲g̲r̲a̲m̲m̲a̲r̲ ̲n̲e̲t̲w̲o̲r̲k̲,̲ ̲a̲n̲d̲ ̲e̲x̲t̲e̲n̲d̲i̲n̲g̲ ̲a̲ ̲V̲i̲t̲e̲r̲b̲i̲ ̲s̲e̲a̲r̲c̲h̲ ̲f̲o̲r̲ ̲e̲a̲c̲h̲ e̲x̲p̲a̲n̲d̲e̲d̲ ̲s̲y̲m̲b̲o̲l̲ ̲f̲o̲r̲ ̲e̲a̲c̲h̲ ̲HMM̲ ̲s̲e̲t̲ ̲i̲n̲d̲i̲v̲i̲d̲u̲a̲l̲l̲y̲ ̲a̲n̲d̲ ̲s̲e̲p̲a̲r̲a̲t̲e̲l̲y̲ ~~offset symbols and the base symbol for a given expanded symbol and~~ b̲y̲ obtaining the HMM of the previous frame and expanding and storing a sequence set of HMM states both for within model path and cross model path and determining the path with the best transition probability.

9. (cancelled): The method of Claim 8 wherein said update-observation-probability includes getting the base symbol of a expanded symbol and validating state by state the base symbol bbby comparing to speech in the present frame for the base symbol associated with the virtual symbol.

10.(new)   The recognizer of Claim 3 wherein the processing steps of a main loop, path-propagation, update-observation –probability, within-model path, and cross-model path build extensions to the recognition paths by calculating Δ_{hmms} in the processing steps get-offsets and get-true-symbols which interface between the generic base network object and the multiple environment HMM sets.

11.(new)   The method of claim 5 wherein the processing steps of a main loop, path-propagation, update-observation –probability , within-model path, and cross-model path build extensions to the recognition paths by calculating Δ_{hmms} in the processing steps get-offsets and get-true-symbols which interface between the generic base network object and the multiple environment HMM sets.

12. (new):   A speech recognizer for decoding a plurality of model sets using a generic base grammar network composed of base-symbols comprising : means for constructing recognition paths defined on expanded-symbols wherein each expanded-symbol references a model contained in one of the model sets, and means for determining expanded-symbols by a conversion function that maps a base-symbol of the generic base grammar network to a plurality of expanded-symbols and an expanded-symbol to its corresponding base-symbol..

13. (new):   The recognizer of Claim 12 wherein said recognition path construction includes means for constraining each recognition path to expanded-symbols referencing models within one model set.

14. (new):   The recognizer of Claim 12 wherein the model sets are HMM models.

15. (new):   The recognizer of Claim 12 wherein the models of each set correspond to a single environmental factor.

16. (new):   The recognizer of Claim 12 wherein the recognition procedure consists of a recognition path construction procedure and an update observation probability procedure.

17. (new):   The recognition path construction procedure of Claim 16 wherein construction of recognition paths consists of extending the path, wherein the path defined by a present expanded-symbol and its referenced model is extended within the referenced model by a within-model-path procedure and to additional expanded-symbols by a cross-model-path procedure.

18.(new):   The cross-model-path procedure of Claim 17 in which the path from a present expanded-symbol is extended to additional expanded-symbols by determining the present base-symbol corresponding to the present expanded-symbol, determining which additional base-symbols may follow the present-base symbol according to the generic base grammar network, and determining the additional expanded-symbols using the conversion function which maps each additional base-symbol of the generic base grammar network to a plurality of additional expanded-symbols.

19. (new):   The update observation probability procedure of Claim 16 in which the probability of speech is included in the extended recognition paths for each of the models corresponding to expanded-symbols on the recognition paths.